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EXAMINER

LY, NGH I H

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 01/30/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,552

Applicant(s)

ROFOUGARAN ET AL.

Examiner

Nghi H. Ly

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-129 and 164-174 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-129 and 164-174 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action (dated 08/21/2003) is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-29, 32-48, 51-83, 85-110, 112-128, 165, 168-174 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador et al (US 5,953,640) in view of Price et al (US 5,537,459).

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Regarding claims 1, 32, 51, 66, 85, 112, 170 and 173, Meador teaches a method an apparatus for wireless communications using a receiver, transmitter and local oscillator, comprising:

programming a frequency of a clock in the local oscillator (see Meador, column 4, lines 44-50),

receiving a first signal at the receiver from a wireless source (see Meador, column 2, lines 25-29), downconverting the received first signal with the clock (see Meador, column 3, lines 23-33), upconverting a second signal with the clock (see Meador, column 4, lines 38-50), and transmitting the upconverted second signal from the transmitter into space (see Meador, column 4, lines 38-43).

Meador does not specifically disclose programming one of the receiver and the transmitter to process communication protocol for a local area network or personal area network.

Price teaches programming one of the receiver and the transmitter to process communication protocol for a local area network or personal area network (see Price, column 13, lines 12-25).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Price into the system of Meador in order to handle differently depending upon the protocol desired by the user (see Price, column 13, lines 12-25).

Regarding claims 2-10, 13, 33-37, 42, 43, 52-58, 67-70, 86-95, 113-117, 122, 123 and 165, Meador further teaches that the transmission/reception of the first/second

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signal comprises filtering the signal with a filter and amplifying the signal with an amplifier, and the programming comprises programming a frequency band of the filter and programming gain of the amplifier (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43). The reception of the first signal includes downconverting the signal to an intermediate frequency then a baseband signal and demodulating the first signal, and the programming comprises programming a demodulation for the demodulator (see Meador, column 3 line 23 to column 6, line 43).

Regarding claims 14-18, 38-41, 72, 96-99 and 118-121, Meador teaches that the downconversion comprises mixing the first signal with a clock and that second clock is mixed with a third clock (see Meador, column 3, lines 23-33). Meador also teaches that the third clock is generated by dividing the second clock by an integer N and the clock comprises a frequency f_{Lo} equal to $f_{vco} (N+1)/N$ wherein f_{vco} equals a frequency of the second clock where $N=2$ (see Meador, column 3, line 34 to column 4, line 22).

Regarding claims 19-24 and 100-105, Meador teaches upconverting the second signal before transmission into space with a second clock that is mixed with a third clock (see Meador, column 4, lines 38-50). Meador also teaches that the third clock is generated by dividing the second clock by an integer N and the clock comprises a frequency f_{Lo} equal to $f_{vco} (N+1)/N$ wherein f_{vco} equals a frequency of the second clock where $N=2$ (see Meador, column 3, line 34 to column 4, line 22).

Regarding claims 25-27, 44-46, 78-80, 106-108 and 124-126, Meador teaches that the receiver and transmitter each have a component and that his method and apparatus comprises calibrating one of the transmitter and receiver components, and

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the components include capacitors and resistors (see Meador, column 6, line 44 to column 7, line 65).

Regarding claims 28, 29, 47, 48, 81-83, 109, 110, 127 and 128, Meador teaches the calibration comprises calibrating the receiver or transmitter component before the first signal is transmitted or received, and that the receiver or transmitter can be recalibrated (see Meador, column 3, line 34 to column 4, line 22).

Regarding claims 11, 12 and 59, Meador further teaches that his receiver component comprises a second amplifier having a programmable gain, and the receiver also comprises a second filter coupled to the second amplifier and having a programmable frequency band, and a demodulator coupled to the second filter and having programmable demodulation (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43).

Regarding claims 60-65, Meador teaches that a local oscillator (LO) is coupled to the receiver and transmitter (see Meador, column 3, lines 47-64). The LO comprises a clock generator which outputs a clock to the receiver and transmitter (see Meador, column 4, lines 38-47). The transmitter comprises a mixer to mix the clock with the baseband signal (see Meador, column 4, lines 23-37). The transmitter further comprises an amplifier and filter coupled to the mixer, the amplifier or filter can both be the programmable transmitter component (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43). The transmitter also has a mixer (see Meador, column 3 line 1 to column 4, line 22 and column 6, lines 30-43).

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Regarding claims 71, Meador further teaches that his transmitter component comprises a second filter with a programmable frequency band to filter a baseband signal, and wherein the transmitter further comprises a third mixer coupled to the second filter to mix the clock with the filtered baseband signal, and a second amplifier coupled to the third mixer and having a programmable gain (see Meador, column 3, line 1 to column 4, line 43 and column 6, lines 30-43).

Regarding claims 73-76, Meador further teaches that the second clock generator comprises an oscillator and a divider coupled to the oscillator, the divider having a control input coupled to the controller to program a frequency of the second clock. The clock generator comprises a voltage controlled oscillator (VCO) to generate the clock, the VCO having a frequency different than that of the clock and a mixer is coupled to both the divider and the VCO (see Meador, column 3, line 1 to column 4, line 50 and column 6, lines 30-43). The divider also comprises a control input coupled to the controller to program the frequency of the clock (see Meador, column 3, line 1 to column 4, line 50 and column 6, lines 30-43).

Regarding claim 77, Meador further teaches that the clock generator further comprises a phase lock loop having a control input coupled to the controller to program the frequency of the VCO (see Meador, column 5, line 1 to column 6, line 67).

Regarding claim 168, Meador further teaches programming one of the receiver and transmitter to control at least one parameter of the transceiver to compensate for a process variation or temperature variation (see Meador, column 4, lines 44-50).

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5. Claims 30-31, 49-50, 84, 111, 129, 164, 166 and 167 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador et al (US 5,953,640).

Claims 30-31, 49-50, 84, 111 and 129, relate to the testing and recalibration of components in the claimed invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a method of testing the signal quality and operation of system components in Meador's design in order to troubleshoot any system problems that may have arisen. The implementation of such a testing and recalibration in the claimed invention does not make it novel over Meador and Price and is deemed to be an obvious addition/modification to the prior art made of record.

Regarding claim 164, 166 and 167, the combination of Meador and Price teaches claim 1 instead of HomeRF, 802.11, Bluetooth or programming comprises selecting a data rate.

However, using HomeRF, 802.11, Bluetooth or programming comprises selecting a data rate as claimed are known in the art. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the above combination as claimed, in order to improve signal quality of a HomeRF, 802.11, Bluetooth or programming comprises selecting a data rate.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 167, 169, 171-172, and 174 are rejected under 35 U.S.C. 102(e) as being anticipated by Meador et al (US 5,953,640).

Regarding claims 167 and 169, Meador teaches a method of wireless communications using a transceiver having a receiver and transmitter (see Meador, Abstract), comprising:

programming one of the receiver and the transmitter to compensate for noise or interference (see Meador, Column 2, lines 25-67),

receiving a first signal at the receiver from a wireless source (see Meador, Column 5 lines 23-56), and

transmitting a second signal from the transmitter into space (see Meador, Column 7, lines 3-8).

Regarding claim 171, Meador's method further comprises programming one of the receiver and the transmitter to control at least one parameter of the transceiver to compensate for a process variation or a temperature variation (see Meador, Column 4, line 44 to column 5, line 4).

Regarding claim 172, Meador's method of wireless communications using a transceiver having a receiver and transmitter, comprising:

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programming one of the receiver and the transmitter to control at least one parameter of the transceiver to compensate for process variation or temperature variation (see Meador, Column 4 line 44 to column 5 line 4), and

transmitting a second signal from the transmitter into space (see Meador, Column 7, lines 38).

Regarding claim 174, Meador's method further comprises programming one of the receiver and the transmitter to compensate for noise or interference (see Meador, Column 2, lines 25-67).

Response to Arguments

8. Applicant's arguments (dated 06/13/2003) with respect to claims 1-29 and 164-174 have been considered but are moot in view of the new ground(s) of rejection.

On page 27 of applicant's remarks/arguments (dated 06/13/2003), applicant argues that Meador does not involve "programming one of the receiver and the transmitter to control at least one parameter of the transceiver to compensate for process variation or temperature variation".

The examiner, however, disagrees. The examiner selects "temperature variation" to make the rejection, and Meador does indeed teach "temperature variation" as claimed (see Meador, column 4, lines 44-50, "from -30 degrees Celsius to 80 degree Celsius"). In addition, applicant's attention is directed to the rejection of claims 170-174 above.

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Regarding to the applicant's arguments on pages 2-3 (see applicant's remarks dated 11/21/2003), the examiner agrees with the applicant's arguments. Accordingly, claims 1-129, 164-168, 170 and 173 are no longer rejected in this action under 35 U.S.C. 112, first paragraph.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Nghi H. Ly

NH Ly
01/26/04

Charles Appiah
CHARLES APPIAH
PRIMARY EXAMINER